WRITTEN DECISION
OF THE INTERNATIONAL
EXAMINATION AUTHORITY (SUPPLEMENTARY SHEET)

International file reference

PCT/EP2004/052427

12 JUL 2006

Re. Point V.

1 This decision makes reference to the following documents:

D1: US-A-6 098 040 (PETERS STEVEN DOUGLAS ET AL) 1 August 2000 (200008-01)

D2: FLORIAN HILGER AND HERMANN NEY:"NOISE LEVEL NORMALIZATION AND REFERENCE ADAPTATION FOR ROBUST SPEECH RECOGNITION" AUTOMATIC SPEECH RECOGNITION, CHALLENGES FOR THE NEW MILLENNIUM, 18 September 2000 (2000-09-18), - 20 September 2000 (200009-20) Pages 1-5, XP007005548 PARIS, FRANCE

2 INDEPENDENT CLAIM 1

2.1 The present application does not fulfill the requirements of Article 33(1) PCT because the object of claim 1 is not novel in the sense of Article 33(2) PCT. Document D1 discloses (the references in brackets relate to this document):

A method for processing a noise-tainted speech signal for subsequent speech recognition, with the speech signal representing at least one speech command (column. 2, lines 63-65), with the following steps:

a) Detecting the noise-tainted speech signal (column. 2, lines 40-43);

b) Application of noise reduction to the speech signal for generation of a noise-reduced speech signal (column. 2, line 44-48);

c) Normalization of the noise-reduced speech signal by means of a normalization factor to a required signal level for generation of a noise-reduced, normalized speech signal (column. 10, line 16-22).

3 INDEPENDENT CLAIM 10 AND 12

2.1 The object of the independent claim 10 corresponds to that of claim 1. It sufficiently known to the person skilled in the art that the better the match between the test data and the training data the higher the recognition rates. It is thus obvious to the person skilled in the art that, in a similar manner to the use of a realistic training database such as AURORA, the same preprocessing of the speech signals as in the test should be used for the training of the HMMs. Claim 10 is thus not inventive according to Article 33(3) PCT.

2.2 The object of independent claim 12 corresponds to that of claim 1 or claim 10 The same objections thus apply to this claim as apply to the above claims.

3   DEPENDENT CLAIMS 2-9, 11, 13-15

Claims 2-9, 11, 13-15 do not contain any features, which in combination with the features of any claim to which they relate, meet the requirements of the PCT in relation to novelty (Article 33(2) PCT) or inventive step (Article 33(3) PCT):

3.1 The person skilled in the art would combine the definition of the normalization factor as a function of a speech activity (claim 2) within the framework of an interference noise level normalization (see D1 for example) without any unpredicted technical effect as normal technical measure with the method known from D1.

It would also emerge from the combination that the speech activity is determined on the basis of the noise-reduced speech signal (claim 3).

3.2 Feature vectors for speech command detection have already been obtained in D1 for the noise-reduced, normalized

speech signal data (column 2, line. 49-51) (claims 4 and 5 and claim 13).

3.3 The geographically separate creation of the feature vectors and the actual speech recognition (claims 6 and 8 and claim 15) is standard practice in this specialist field.

3.4 Speech recognition is already performed with the aid of the edited speech signal (claim 7) in D1 (column 2, line 60-62).

3.5 Both preprocessing (such as normalization of the cepstrum for example) and also feature compression (claim 9) are methods well known to the person skilled in the art and do not contribute to the inventive significance.

3.6 In general an acoustic model is created to train a speech command for speech recognition (claim 11).

3.7 Speech recognition for mobile stations (claims 13 and 14) is already prior art and standard technical practice. Speech recognition in a communication network is already used in D1 (column 2, line 66 - column 3, line 24)